

Editorial Note on Gastric Leiomyoma Epigenetic Alterations

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Editorial

Gastric leiomyomas make up 2.5 percent of all gastric neoplasms. Patients may present with upper gastrointestinal haemorrhage, even though the majority of them are asymptomatic. Endoscopically, gastricleiomyomas appear as a large submucosal lesion, and endoscopic biopsies are generally not deep enough to be diagnostic. Most of these tumours are pathologically composed of spindle cells with smooth muscle differentiation. Leiomyomas are tumours that are desmin and actin positive but not c-Kit (or CD117) negative. Tumorigenesis is a multistep process characterised by the accumulation of genetic and epigenetic alterations that result in uncontrolled growth. The most studied epigenetic modification in human neoplasms is the deregulation of DNA methylation, which causes widespread changes in methylome patterns during tumour progression.

Tumor epigenomes are distinguished by global DNA hypomethylation and gene-specific hypermethylation. Gene silencing via CpG islands (CpGI) hypermethylation in gene promoters can modulate pathways

that control basic cellular functions by acting directly on tumour suppressor and caretaker genes and indirectly on oncogenes via their regulators. Although gene expression profile studies have shown that some genes are hypermethylated in gastric GISTs (gastrointestinal stromal tumours), there is no information on the methylation profile of gastric leiomyomas to our knowledge. Leiomyomas are uncommon tumours that can develop anywhere in the gastrointestinal (GI) tract, though they are most found in the stomach, jejunum, or ileum. These tumours are extremely rare in children. These tumours are usually asymptomatic, but they can cause an abdominal mass, obstruction, intussusception, volvulus, GI bleeding, or abdominal pain and should be resected if symptomatic. We present the unusual case of a 16-year-old female patient with a gastric leiomyoma and an unusual immunohistochemical staining pattern. To completely excise the mass, we used laparoscopic assisted endoscopic resection.

In a variety of procedures, single port laparoscopic surgery is becoming an alternative to the conventional laparoscopic approach. The benefits of these techniques have yet to be proven in a prospective randomised setting. However, one of the main contributions of the single port approach is a shift in the mentality of the surgeons performing these techniques, because these new approaches open surgeons' minds to the possibility of a combined approach based on the concepts of NOTES (natural orifice Trans-endoscopic surgery) and MANOS (mini laparoscopy assisted by natural orifice) a rise in the use of mini laparoscopic instruments. Hybrid procedures are becoming more common in order to reduce anterior abdominal wall injury while also allowing surgeons and endoscopists to collaborate more and more in the operating room in order to reduce invasiveness and thus improve patient recovery. Old concepts, such as intragastric laparoscopic surgery, may be improved by combining single port access and an endoscopic approach to provide new alternatives to various entities. We developed a new technique based on an intra-gastric approach using a single port device aided by endoscopy (I-EASI: intragastric endoscopic assisted single incision surgery) to remove benign gastric lesions and GIST tumours placed in the possession.